



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,119	12/04/2003	Ismail Emesh	004.0122	3177

29906 7590 04/19/2006

INGRASSIA FISHER & LORENZ, P.C.
7150 E. CAMELBACK, STE. 325
SCOTTSDALE, AZ 85251

EXAMINER

SHAKERI, HADI

ART UNIT	PAPER NUMBER
----------	--------------

3723

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,119

Applicant(s)

EMESH ET AL.

Examiner

Hadi Shakeri

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims 19-25 drawn to an invention nonelected without traverse in Paper No. 082905. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as obvious over Kubota et al. (6,270,393) alone or in view of Hattori et al. (2004,0234396)

Kubota et al. meets all of the limitations of claims 1, 7 and 13, i.e., a polishing fluid/method for CMP process comprising a polyacrylic acid surfactant having a molecular weight between about 2000 and 240,000 (e.g., potassium palmitate; phosphate); a buffer adjuster (potassium hydroxide and sodium hydroxide), and a chelating agent (component c), except that it does not disclose keeping the pH between 5 and 14. Kubota et al. is silent regarding the preferred range of the pH for the slurry, even though the solution appears to be alkaline which would anticipate the claims for having a pH higher than 7, however, it is noted that setting the pH of the solution, i.e., the acidity or alkalinity of the solution, at a particular value, e.g., 7 depends on the workpiece/operational parameters obvious to one of ordinary skill in the art.

Art Unit: 3723

It is also noted that Kubota et al. meets all of the limitations of the above claims as described in the previous office action, listing different surfactants, e.g., polyethylene glycol, which is disclosed by the instant application to be a preferred amphoteric surfactant as the polyacrylic acid (paragraph 54). Polyethylene glycol as disclosed by Kubota et al., performs the identical function specified in the claim in substantially the same way, and produces substantially the same results as the polyacrylic acid with high molecular weight as disclosed in the specification and a person of ordinary skill in the art would have recognized the interchangeability of the element shown in the prior art for the corresponding element disclosed in the specification.

In the alternative, Hattori et al. teaches slurries having any one of cationic, anionic, and nonionic surfactant with preferred embodiment of potassium or ammonium salt of polyacrylic acid. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the cationic, anionic, and nonionic surfactant of Kubota et al. with the potassium or ammonium salt of polyacrylic acid as taught by Hattori et al. to enhance the operation.

Regarding claims 2-5, 6-12 and 14-18, Kubota et al. as modified above, meets the limitations, i.e., surfactant, e.g., polyethylene glycol in an amount of from 0.1% to 10 by weight which is considered to meet the limitation as recited, however, choosing a particular amount of the surfactant, e.g., 2 vol. % in enhancing the operation, would have been within the knowledge of one of ordinary skill in the art depending on the workpiece and/or operational parameters; chelating agent, e.g., EDTA in an amount of, e.g., 1% wt. (within the range specified 0.1 to 3%), regarding claim 17, the intended use, narrative language and/or limitations given to the workpiece do not further limit the method, however, Kubota et al. meets the language, e.g., semiconductor integrated circuit.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments

5. Applicant's arguments filed 01/27/06 have been fully considered but they are not persuasive. As indicated above Kubota et al. discloses using, e.g., polyethylene glycol, which according to the instant specification is as preferred as the surfactant now recited, indicating obvious variant to one of ordinary skill in the art.

6. Prior art made of record and not relied upon, at this time are considered pertinent to applicant's disclosure. Erickson et al., Homma et al., Tsuzuki, and Hirohiko are cited to show related inventions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is (571) 272-4495. The examiner can normally be reached on Monday-Friday.

Art Unit: 3723

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Hadi Shakeri', with a long horizontal flourish extending to the right.

Hadi Shakeri
Primary Examiner
Art Unit 3723
April 14, 2006